

A. AMENDMENTS TO THE SPECIFICATION

Please replace paragraph [0001] with the following amended paragraph:

[0001] This application claims priority to and the benefit of U.S. Provisional Patent Applications No. 60/394,774, filed July 10, 2002, entitled Single-Fiber Bi-Directional Transceiver; No. 60/397,969, filed July 23, 2002, entitled Plug-in Module Having a Receptacle for Receiving Bi-Directional Data Transmission, No. 60/397,971, filed July 23, 2002, entitled Plug-in Module Having a Receptacle for Receiving Bi-Directional Data Transmission, No. ~~60/397,697~~
60/397,967, filed July 23, 2002, entitled Optical Circulator Using a Prism for Bi-Directional Communication; No. 60/398,056, filed July 23, 2002, entitled Low Cost Optical Circulator for Bi-Directional Communication; No. 60/397,851, filed July 23, 2002, entitled, Optical Circulator with Dual Receive Path for Bi-Directional Communication; No. 60/397,728, filed July 23, 2002, entitled, Optical Circulator with Dual Receive Path and Quarter Wave-Plate for Bi-Directional Communication; No. 60/397,970, filed July 23, 2002, entitled, Optical Circulator with Adjacent Transmit and Receive Ports for Bi-Directional Communication; No. 60/397,852, filed July 23, 2002, entitled, Optical Circulator with Beam Dispenser for Bi-Directional Communication; and No. 60/397,963, filed July 23, 2002, entitled, Optical Circulator with Beam Dispenser for Bi-Directional Communication; No. 60/395,413, filed July 13, 2002, entitled Optical Pump Module; all of which are hereby incorporated by reference in their entireties.

Please replace paragraph [0031] with the following amended paragraph:

[0031] Figure 2A shows a diagram of some of the active and passive components in the optical path of one embodiment of an optical transceiver for bi-directional communication on a single fiber-optical cable. The active components shown in Figure 2A are the laser diode 202 and

photo diode 204. The passive components shown in Figure 1 are the optical lenses 206, 208 and 210 and the optical circulator 212.

Please replace paragraph [0032] with the following amended paragraph:

[0032] To transmit optical data the laser diode 202 produces an output light signal in response to a modulated electronic data signal. The output light signal, [[is]] in some embodiments of the invention, is optically polarized at some predetermined state of polarization (SOP). The SOP may be specified using conventional techniques, such as through the manner of manufacture of the laser diode 202 or by using a wave plate. The output light signal is collimated by a lens 206 and directed into the circulator 212. The circulator 212 directs the output light signal into the single fiber 214 with a lens 210.

Please replace paragraph [0036] with the following amended paragraph:

[0036] Another approach is to fabricate the laser diode 202 and the photo diode separately 204, and then bond them to the same substrate [[250]] 252 or carrier. This offers advantages such as being able to take advantage of conventionally manufactured optical components available at low cost.

Please replace paragraph [0042] with the following amended paragraph:

[0042] In another embodiment, the circulator 212 is an isolator. In this embodiment, the isolator has three ports. However, light received ~~from the~~ through the fiber connected with the pigtail 266 is directed to the photodiode 204. In other words, the laser diode 202 is isolated from

received light and the received light is directed to the photo diode 204. Light can be transmitted bidirectionally over a single fiber optic cable.

Please replace paragraph [0044] with the following amended paragraph:

[0044] Thus, the distance between the laser diode 202 and the photodiode 204 can impact the overall length of the transceiver module. The distance is affected because the core of the circulator or isolator included in the transceiver module causes light to follow a first path in a transmit direction and a second path in a receive direction. In the core, these paths diverge. Hence, if the distance between the ~~photo diode~~ photodiode and the laser diode is relatively large, then the transceiver module must have a length sufficient to accommodate the first path and second path of the light. Shortening the distance between the ~~photo diode~~ photodiode and the laser diode permits the active component part to be placed near the core and results in the transceiver module having a shorter length.